

When the research program was begun in 1950 by the National Advisory Committee for Aeronautics (predecessor to NASA), the Federal Agency did not have a sufficient number of pilots to operate the program, and so a contract was made with Lockheed to provide the pilots.

Overseas logistic support for NASA's continuing use of the U-2 is provided by air weather service units of the USAF.

NASA has procured a total of 10 U-2 airplanes. The airplane was originally built as a private venture by Lockheed to serve as a "Flying Test Bed". It is powered by a single Pratt & Whitney J-57 turbojet engine, and can maintain flight for as long as four hours at altitudes of up to 55,000 feet.

Since inception of the research program in 1956, the U-2 flying weather laboratories have operated from bases in California, New York, Alaska, England, Germany, Turkey, Pakistan, Japan, Okinawa and the Philippines.

The U-2 airplanes are presently being used in California (Edwards AFB, One), Japan (ATSUGI, Three) and Turkey (Adana, Four).

The instrumentation carried by the U-2 permits obtaining more precise information about clear air turbulence, convective clouds, wind shear, the jet stream, and such widespread weather patterns as typhoons. The airplane also has been used by NASA to obtain information about cosmic rays, and the concentration of certain elements in the atmosphere, including ozone and water vapor.

Instrumentation carried includes: Angular velocity recorder, to measure the airplane's rate of pitch; modified VGR recorder, to measure and record head-on gust components in flight; flight recorder model BB, continuous recorder of indicated airspeed, pressure altitude and normal acceleration; airspeed and altitude transducer to measure altitude and indicated airspeed; temperature and humidity measuring set AM/HQ 7 to measure indicated free air temperature and indicated relative humidity; and vortex thermometer system, to measure true free-air temperature within one-half degree centigrade at high speeds.